

Unit Planning Guide: Grade ____ Unit __3_ of __8_

Unit Title: Division/ Multiplication Problem Solving	Pacing (Duration of Unit): 5 weeks
Grade: 4	Buffer Day(s):

Desired Results

Transfer Goals

Students will be able to independently use their learning to:

- **Make sense of problems and persevere in solving them.**
- **Reason abstractly and quantitatively.**
- **Construct viable arguments and critique the reasoning of others.**
- Model with mathematics.
- **Use appropriate tools strategically.**
- **Attend to precision.**
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

Established Goals (2011 MA Curriculum Frameworks Standards Incorporating the Common Core State Standards)

Standards (Priority Standards in bold):

- **4.NBT.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.**
- **4.OA.1 Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.**
- **4.OA.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing**

WIDA for English Language Learners

Standard 1: ELLs **communicate** for **Social** and **Instructional** purposes within the school setting

Standard 3: ELLs **communicate** information, ideas and concepts necessary for academic success in the content area of **Mathematics**

In the lesson planning stage, teachers will need to differentiate lessons for ELLs. In order to accomplish this they will need: 1.) this curriculum map, 2.) a list of their ELLs and their proficiency levels, and 3.)

<p>multiplicative comparison from additive comparison.</p> <ul style="list-style-type: none"> • 4.OA.3 Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. • 4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way. • 4.NBT.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. <i>For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.</i> 	<p>appropriate language function expectations and scaffolds or supports.</p>
---	--

<p align="center">Meaning (*Mostly assessed through Performance Tasks/Assessments)</p>

<p>Big Ideas: (Statements and concepts written in teacher friendly language which reflect the important [but not obvious] generalizations we want students to be able to arrive at. These are used by the teacher to focus daily instruction.)</p> <ul style="list-style-type: none"> • Division is the inverse of multiplication • There are two types of division problems based on group size or number of groups. • Remainders may or may not be crucial. • Division is repeated subtraction 	<p>Essential Questions: (Questions which frame ongoing and important inquiries about the big ideas. They are written for students and used in daily instruction to help engage students in meaningful thinking.)</p> <ul style="list-style-type: none"> • When can I ignore a remainder? • Why should I divide? • Does division make problem solving easier? • What is the best method for dividing?
---	---

<p align="center">Acquisition (*Mostly assessed through traditional summative assessments)</p>

Knowledge: Key basic concepts, facts, and key terms (written in phrases) students should be able to recall independently.

Students will know ...

- division can determine group size
- division can determine number of groups
- remainders have different effect on quotients
- which operation to use to solve a word problem

Key Academic Vocabulary:

- Quotient
- Dividend
- Divisor
- remainder

Skills: The discrete skills and process students should be able to use independently (Bloom's Level of Learning should be noted in parentheses.)

Students will be skilled at:

- calculating and explaining methods for multiplication and division using various methods. (analyzing, understanding)
- multiplying and dividing facts fluently. (remembering)
- generating and solving equations with an unknown number represented by a symbol. (evaluating applying)
- solving multi-step word problems using multiplication and division equations with a variable to represent an unknown quantity and assess reasonableness of the answer using estimation and mental computation.
- interpreting remainders. (creating)